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ELECTRIC MOTORS FOR POWERING DOWNHOLE TOOLS

CROSS REFERENCE TO RELATED APPLICATIONS

This application is the US national phase of PCT application PCT/GB2003/004009 filed 18 September 2003 with a
5 claim to the priority of British patent application 0221630.7
itself filed 18 September 2002 and British patent application
0315848.2 itself filed 7 July 2003.

FIELD OF THE INVENTION

The present invention relates generally to downhole
10 pumping systems and, more particularly to a new electric motor
for use with a downhole tools such as a pumping system and which
does not require a conventional protector.

BACKGROUND OF THE INVENTION

Electric submersible pumps (ESPs) are widely used
15 throughout the world for recovering bringing subterranean fluids
to the earth's surface. For the long-term successful operation
of such submersible pumping systems, the electric motor is
supplied with uncontaminated motor oil. The motor oil not only
lubricates the motor, it also cools the motor to prevent
20 overheating. In most submersible pumping systems in use today,
this motor oil is partially contained within a device commonly
referred to as a motor protector. Conventional motor protectors
typically include one or more elastomeric bags. These
elastomeric bags provide two important functions: (1) equalizing
25 the fluid pressure within the motor to that in the adjacent